

(No Model.)

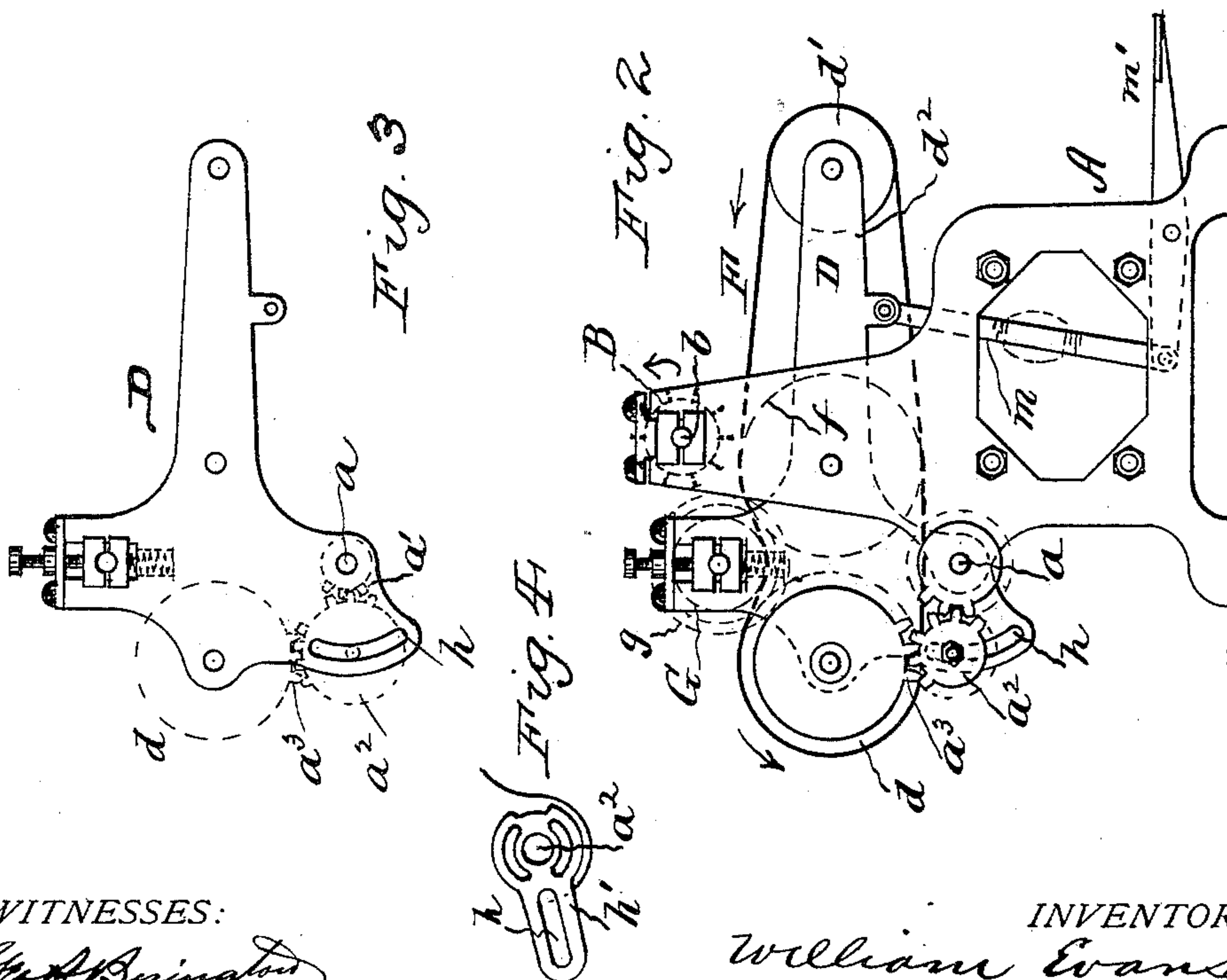
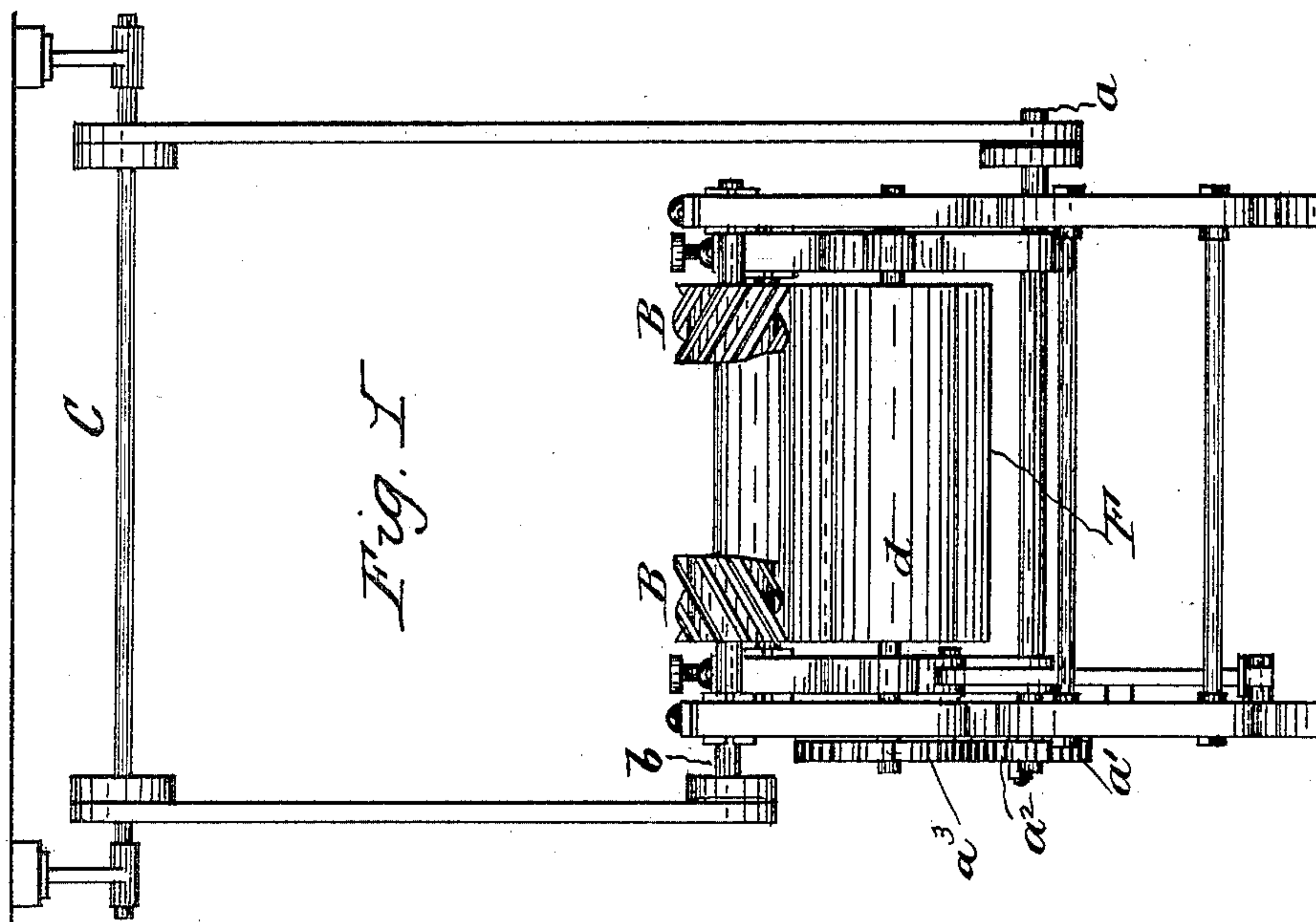
2 Sheets—Sheet 1.

W. EVANS.

MACHINE FOR TREATING HIDES OR SKINS.

No. 462,838.

Patented Nov. 10, 1891.



WITNESSES:

*Geo. F. Byington*  
*Fred K. T. Hubbell*

INVENTOR

*William Evans*  
*By S. J. Vanstavern*

ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

W. EVANS.

MACHINE FOR TREATING HIDES OR SKINS.

No. 462,838.

Patented Nov. 10, 1891.

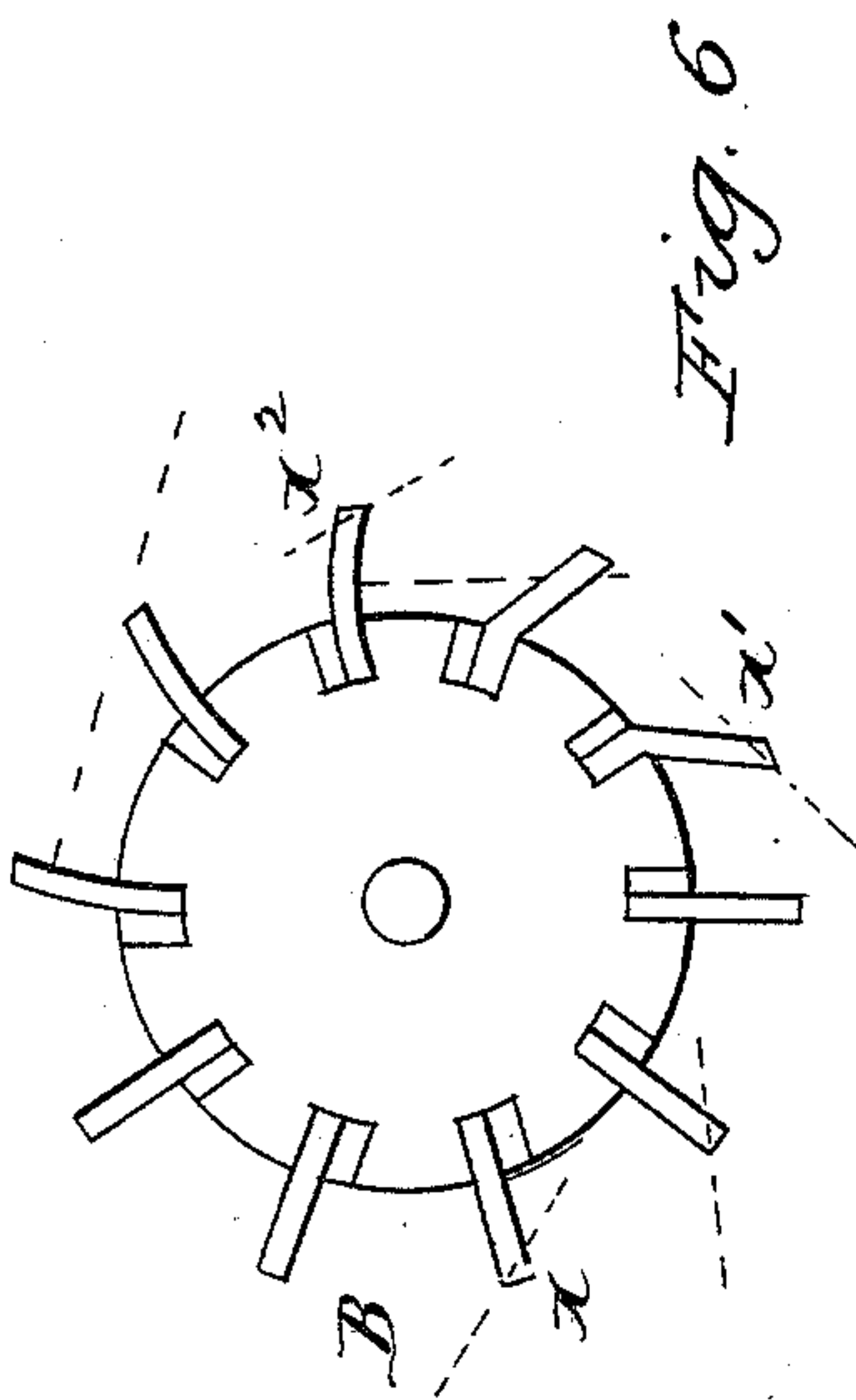


Fig. 6

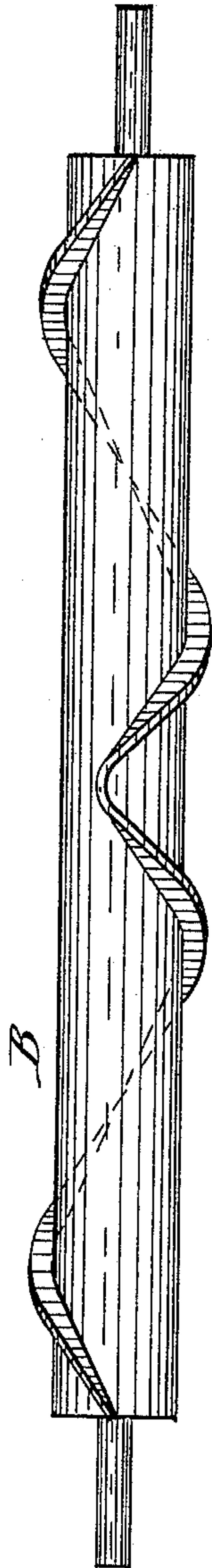


Fig. 5

WITNESSES:

*E. H. Byington*

*Fred T. Hubbell*

INVENTOR

*William Evans*

*By A. J. Vanstavern*

ATTORNEY



# UNITED STATES PATENT OFFICE.

WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA.

## MACHINE FOR TREATING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 462,838, dated November 10, 1891.

Application filed December 18, 1890. Serial No. 375,070. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM EVANS, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Treating Hides or Skins, of which the following is a specification.

My invention relates to an improved machine for fleshing, scudding, or cleansing, striking out or slicking, skiving, or frizzing, unhairing or laying out hides, skins, or leather of a form in which a cutter or knife cylinder is employed in conjunction with an endless feed-apron or band.

It is well known that in machines for treating hides or skins the cutter or knife-cylinder is generally operated at a high rate of speed, ranging from six to seven hundred revolutions per minute, and that the rollers for guiding and carrying the feed-apron are run in a reverse direction at a comparatively low rate of speed ranging from forty to fifty revolutions per minute.

Hitherto the difference in the rate of speed between the cutter-cylinder and rollers for guiding and carrying the feed-apron was attained by the application of power to the machine through a single shaft and the required velocity of the guide-rollers and cutter-cylinder was attained by the interposition of a train of gearing. In practice this required the expenditure of considerable unnecessary power, and aside from the expense the gearing soon became worn and had to be replaced.

The principal objects of my invention are, first, to overcome the above-mentioned defects and to provide a machine having independent means for imparting motion to the feed-apron and to the cutter or knife-cylinder thereof in order that the same can be readily and economically driven at required relative rates of speed; second, to provide a machine which is simple in construction and durable and effective in action; third, to provide a machine capable of being operated with comparatively little noise and without undue strain or taxing of the parts thereof, and fourth, to appreciably enhance the character and resultant condition of the material or materials treated therein, to prevent slip-

ping of the skins, and to increase the output of the machine.

My invention consists of a machine for treating hides or skins having a cutter or knife-cylinder provided with means for actuating the same, a feed-apron and power-applying means therefor, and the said two independent power-applying means adapted to actuate said cylinder and apron, respectively, at required different rates of speed.

My invention further consists of a machine for treating skins or hides constructed and the parts thereof arranged substantially in the manner hereinafter described, and pointed out in the claims.

The particular characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is an elevation of a machine embodying features of my invention, with the power-transmitting appliances shown in application and with the cutter or knife cylinder partially broken away. Fig. 2 is a side elevation of the machine. Fig. 3 is a side elevation of the swinging frame for supporting the feed-apron with its pressure-roller and showing also the pressure-roller of the cutter-cylinder. Fig. 4 is a detail elevation of a form of adjustable arm for changing the gears of the feed-apron. Fig. 5 is a top or plan view of the cutter or knife cylinder, and Fig. 6 is a diagrammatic view showing old forms of cutters and also my improved cutters for the cylinder.

Referring to the drawings for a further description of my invention, A represents the standards of the machine, having the cutter or knife cylinder B mounted therein at preferably the top of the machine, as clearly shown in Fig. 1. The cutter-cylinder shaft *b*, journaled to the two standards A, is provided, as shown, with fast and loose pulleys and with a belt in connection with the power-shaft C; but other power-transmitting appliances may be employed. It will be observed that the cutter-cylinder shaft *b* is not connected with any of the other operative shafts of the machine—that is to say, the cutter-cylinder B is located independently of the feed band or apron, thereby permitting of the



cylinder B being operated at a high rate of speed with comparatively little noise, the avoidance of undue tax and strain of the machine, and, moreover, with the economical and easy operation thereof.

D is a suitable frame pivoted or loosely supported on a shaft  $a$ , journaled to the standards A. The frame D carries an endless feed apron or band F, rollers  $d$  and  $d'$  for said apron, a pressure-roller  $f$  for the cutter-cylinder, and an adjustable roller G, located above the rollers  $d$  and  $f$  and between the same in such manner as to bear firmly upon the apron and against both of said rollers to effectually prevent the skin or hide slipping as it is undergoing treatment in the machine. By suitably adjusting the roller G the described double-biting operation may be varied in the extent of pressure exerted thereby to suit different thicknesses of skins, whereby the most beneficial results are obtained. The shaft  $a$  at one end has fast and loose pulleys and a belt connected with the power-shaft C, and at the other end is provided a gear connection  $a'$ , with an idle gear  $a^2$ , meshing with a gear  $a^3$  on the shaft or roller  $d$  to feed the apron F. The rollers  $d'$ ,  $f$ , and G revolve by frictional contact with the apron F; but, if preferred, the roller G may have a gear connection  $g$ , meshing with the gear  $a^3$  on the shaft of roller  $d$ . By providing a slotted bearing  $h$  in the frame D or in separate adjustable arms  $h'$  on said frame, as fully illustrated in Fig. 4, the gears  $a'$  and  $a^2$  may be readily modified, as required, to change the feed of the apron F. The feed of the apron F is independent of the rotation of the cutter-cylinder B, and can therefore be regulated as desired without stopping the rotation of said cylinder B. The frame D and parts carried thereby are preferably nearly balanced, and the end  $d^2$  of the frame D is slightly heavier than the opposite end, so as to act by gravity to keep the apron normally away from the cutter-cylinder B, as indicated in Fig. 2. The apron F is raised to said cylinder by a link  $m$  and treadle  $m'$ , under the control of the operator. If preferred, the link  $m$  may be in sections and coupled so as to be adjustable, in order to admit of the adjustment of the apron to different heights.

The cutter-cylinder B may have its spiral cutters continuous from end to end or from

the middle to each end in reverse directions. These cutters may be straight, as shown at  $x$ , Fig. 6; but they are preferably inclined, as shown at  $x'$ , or curved, as indicated at  $x^2$ , to the line of their pitch, in order to give a greater lead to effect a draw instead of a scraping cut. Such construction of cutters insures better results—that is, the skin or hide can be cut more evenly or cut to the required thickness or as thin as needs demand. The cutting being better and easier, and as the cutter-cylinder rotates independently of the feed-apron, and, further, as the apron has a double bite for the skin or hide, the operation of treating the latter is more effectually, more easily, and quickly accomplished, and the output of the machine appreciably increased.

It will be obvious to those skilled in the art to which my invention appertains that the machine may be modified as to minor details without departing from the spirit of the invention, and hence I do not limit myself to the precise arrangement of the parts thereof, as hereinbefore mentioned; but

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a machine for treating hides and skins, of a cutter-cylinder, a swinging frame provided with rollers, and a feed-apron mounted thereon and pressure-rollers for said cylinder and for said apron, substantially as shown, and for the purposes described.

2. The combination, in a machine for treating hides and skins, of a cutter-cylinder, a swinging frame having a treadle mechanism, rollers carrying an apron, and pressure-rollers supported by said frame, substantially as and for the purposes described.

3. The combination, in a machine for treating skins and hides, of standards, a cutter-cylinder mounted on a shaft journaled to said standards, a frame supported and swinging on a shaft and provided with rollers guiding and carrying an apron, and pressure-rollers for said cylinder and for said apron, substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM EVANS.

Witnesses:

FRANK H. MASSEY,  
S. J. VAN STAVOREN.